


# Anemia and Hypoferremia in Cats with Hepato-Pancreatic and Intestinal Involvement

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In veterinary medicine, although red blood cells (RBC) and iron serum levels seem to be influenced by inflammation, specific investigations regarding red blood cell parameters and iron serum levels in enteropathic cats are lacking.

The aim of this study was to investigate which type of anemia and how are the serum iron levels in cats with hepato-pancreatic and intestinal involvement.

A retrospective review was conducted on ten-year medical records of cats presented to the University Veterinary Teaching Hospital, looking for ultrasonographic signs of concurrent inflammation of at least two organs among liver, pancreas and intestine. Cats were included if information about clinical signs and laboratory tests (CBC and serum iron level) were available.

Sixty-three cats met the inclusion criteria and were enrolled in the study. Patients were divided into two groups according to ultrasonographic signs: cats with concurrent involvement of pancreas, liver and intestine (Group A, n=19) and cats with concurrent involvement of only two organs between pancreas, liver and intestine (Group B, n= 44). Differences between groups were statistically investigated by Mann-Whitney test for iron, and unpaired t-test for anemia parameters. Categorical data were analyzed with Fisher's exact test.

Twenty-nine cats (46%) showed anemia which was more frequently mild (Hct<26%; 62.1%) or moderate (13%<Hct<19%; 31%), normocytic-normochromic (72.4%), and non-regenerative (86.2%). Microcytosis was an infrequent finding (6.3%), and only two cats had microcytosis, anemia and hypoferremia concurrently. Hypoferremia (serum iron <90 mcg/dL) was present in 34 cats and concurrent anemia was observed in 15 cats (without any association between these two parameters). Both hypoferremia and anemia were more severe in group A (median serum iron 60 mcg/dL; mean RBC 6.06 M/µL; p=0.0321) than group B (median serum iron 90.5 mcg/dL; mean RBC 7.00 M/µL). Moreover, anemia was more frequently present in group A (63%; p=0.0321). A ROC curve was used to determine the optimal cut-off of serum iron to identify cats with hepato-pancreatic and intestinal involvement. Cats with serum iron lower than 61.5 mcg/dL were more frequently belonging to group A (sensitivity 82.2%; specificity 52.6%; p=0.0048).

The most plausible hypothesis for the origin of anemia was the presence of a chronic disease. Decreased serum iron levels may be considered as a marker of inflammation in enteropathic cats. Hepato-pancreatic and intestinal inflammation may cause more severe hypoferremia, erythropoiesis suppression, and anemia.

## Disclosures

No disclosures to report.

## Speaker Information

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